CLAIMS

What is claimed is:

1   1. A method for traversing a firewall, comprising:

2   initiating a first connection;

3   evaluating the first connection for a response from a remote system indicating a

4   successful first connection;

5   initiating a second connection if a successful first connection is not established;

6   evaluating the second connection for a response from a remote system indicating a

7   successful second connection;

8   initiating a third connection if a successful second connection is not established; and

9   evaluating the third connection for a response from a remote system indicating a

10   successful third connection.

1   2. The method of claim 1, wherein the first connection, the second connection, and the third

2   connection is selected from the group consisting of Transmission Control Protocol (TCP)

3   connection, User Datagram Protocol (UDP) connection, hypertext transfer protocol (HTTP)

4   connection, hypertext transfer protocol (HTTP) connection via a proxy connection, and Internet

5   Control Message Protocol (ICMP) connection.

1   3. The method according to claim 2, wherein initiating a TCP connection comprises initiating a

2   TCP connection to a predefined address and port.

1   4. The method according to claim 2, wherein initiating a HTTP connection comprises initiating

2   a HTTP connection to a predefined address using port 80.

1   5. The method according to claim 2, wherein initiating a HTTP connection via a proxy

2   connection further comprises determining a likely proxy address and port.

1   6. The method according to claim 5, wherein determining a likely proxy address and port further

2   comprises packet sniffing.

1   7. The method according to claim 6, wherein packet sniffing further comprises:

2   sampling packets;

3   extracting information from the sampled packets; and

4   building a database of likely proxy addresses and ports.

1   8. The method according to claim 7, wherein extracting information from the sampled packets

2   comprises extracting TCP port information.

1   9. The method according to claim 7, wherein extracting information from the sampled packets

2   comprises examining TCP packets for HTTP data.

1   10. The method of claim 2 further comprising using Internet Protocol (IP).

1   11. The method according to claim 10, wherein initiating a HTTP connection via a proxy

2   connection further comprises determining a likely proxy address by sampling packets and

3   extracting IP addresses.

1   12. The method of claim 2 further comprising using Ethernet with the Transmission Control

2   Protocol (TCP).

1   13. The method according to claim 12, wherein initiating a HTTP connection via a proxy

2   connection further comprises determining a likely proxy address by sampling packets and

3   extracting Ethernet addresses.

1   14. A machine-readable medium having stored thereon instructions, which when executed by a

2   processor, causes said processor to perform the following:

3   initiate a first connection;

4   evaluate the first connection for a response from a remote system indicating a successful

5   first connection;

6   initiate a second connection if a successful first connection is not established;

7   evaluate the second connection for a response from a remote system indicating a

8   successful second connection;

9   initiate a third connection if a successful second connection is not established; and

10   evaluate the third connection for a response from a remote system indicating a successful

11   third connection.

1   15. The machine-readable medium according to claim 14, further configuring said processor to

2   perform the following:

3   implement the first connection, the second connection, and the third connection selected

4   from the group consisting of Transmission Control Protocol (TCP) connection, User Datagram

5   Protocol (UDP) connection, hypertext transfer protocol (HTTP) connection, hypertext transfer

6   protocol (HTTP) proxy connection, and Internet Control Message Protocol (ICMP) connection.

1   16. The machine-readable medium according to claim 15, further configuring said processor to

2   perform the following:

3   examine network traffic; and

4   build a database of parameters likely to allow establishment of a HTTP connection via a

5   proxy connection.

1   17. A firewall traversal system comprising:

2   a main system coupled to storage;

3   a communication subsystem coupled to the main system and a communication medium;

4   a packet examining subsystem coupled to the communication subsystem; and

5   a database system coupled to the packet examining subsystem and the main system.

1   18. The system of claim 17, wherein the packet examining subsystem extracts port information.

1   19. The system of claim 18, wherein the packet examining subsystem extracts the port

2   information based upon examining packet data content.

1   20. The system of claim 17, wherein the packet examining subsystem extracts address

2   information.

1   21. The system of claim 20, wherein the packet examining subsystem extracts the address

2   information based upon examining packet data content.

1   22. A method for traversing a firewall, comprising:

2   means for initiating a first connection;

3   means for evaluating the first connection for a response from a remote system indicating

4   a successful first connection;

5   means for initiating a second connection if a successful first connection is not

6   established;

7   means for evaluating the second connection for a response from a remote system

8   indicating a successful second connection;

9   means for initiating a third connection if a successful second connection is not

10   established; and

11   means for evaluating the third connection for a response from a remote system indicating

12   a successful third connection.

1   23. The apparatus of claim 22, wherein means for initiating the first connection, means for

2   initiating the second connection, and means for initiating the third connection further comprises

3   means for initiating a connection selected from the group consisting of Transmission Control

4   Protocol (TCP) connection, User Datagram Protocol (UDP) connection, hypertext transfer

5 protocol (HTTP) connection, hypertext transfer protocol (HTTP) proxy connection, and Internet

6 Control Message Protocol (ICMP) connection.

1 24. The apparatus of claim 23, wherein means for initiating a HTTP connection via a proxy

2 connection further comprises determining a likely proxy address by sniffing packets and

3 extracting information from the packets.

1 25. The apparatus of claim 23, wherein means for initiating a HTTP connection via a proxy

2 connection further comprises determining a likely proxy address by receiving information from a

3 computer connected to the firewall.

1 26. The apparatus of claim 22, further comprising means for updating firewall traversal

2 strategies.